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January 1940

Test 363: Allis-Chalmers Model C (Distillate)

Tractor Museum

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 363

Dates of test: October 28, to November 6, 1940.

Name and model of tractor: Allis-Chalmers C (Distillate)

Manufacturer: Allis-Chalmers Manufacturing Company, Milwaukee, Wisconsin.

Manufacturer's rating: NOT RATED.

B E L T H O R S E P O W E R T E S T S

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water used gal. per hr.	Temp, Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H.P. hr. per gal..	Lb. per H. P. Hr.		Cool- ing med.	Air	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

19.40	1500	1.629	11.91	0.583	0.000	157	61	28.780
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

18.82	1501	1.558	12.08	0.574	0.000	152	59	28.710
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*TEST D - ONE HOUR

17.24	1500	1.481	11.64	0.596	0.000	163	60	28.700
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

17.20	1495	1.470	11.70	0.593	--	165	61	--
2.25	1683	0.882	2.55	2.720	--	176	60	--
9.14	1550	1.133	8.07	0.860	--	177	64	--
17.93	1412	1.478	12.13	0.572	--	158	58	--
4.63	1581	0.977	4.74	1.464	--	182	66	--
13.38	1526	1.284	10.42	0.636	--	180	65	--
10.76	1541	1.204	8.94	0.776	0.000	173	62	28.690

D R A W B A R H O R S E P O W E R T E S T S

H. P.	Draw bar pull pounds	Speed miles per hr.	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hr.	H.P. per gal.	Lb. per H.P. Hr.		Cool- ing med.	Air	

TEST F - 100% MAXIMUM LOAD - Second - GEAR

15.96	1878	3.19	1500	13.15	-----	Not Recorded	-----	169	61	28.510
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TEST G - OPERATING MAXIMUM LOAD

11.83	2368	1.87	1500	19.24	-----	Not Recorded	-----	156	50	29.120
15.97	1818	3.29	1503	10.47	-----	"	"	162	61	29.070
16.10	890	6.78	1501	4.69	-----	"	"	160	64	28.890

*TEST H - TEN HOURS - Second - GEAR

12.68	1407	3.38	1500	8.00	1.349	9.40	0.739	0.000	181	53	28.660
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*Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Distillate Octane 39 Weight per gallon 6.94 pounds

Oil: S.A.E. No. 10 To motor 1.366 gal. Drained from motor 0.877 gal.

Total time motor was operated 53 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2-1/2 Second 3-3/4

Third 7-1/2 Reverse 2-3/4

Belt pulley: Diam 8" Face 5-1/2" R.P.M. 1129 Belt speed 2365 f.p.m.

Clutch: Make Rockford Type Single plate Operated by foot

Seat Upholstered

Total weight as tested (with operator) 3205 pounds

MOTOR

Make Own Serial No. CE79K Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3-3/8" x 3-1/2" Rated R.P.M. 1500

Port diameter valves; Inlet 1.20" Exhaust 1.03"

Magneto: Make Fairbanks-Morse Model FM-J4B

Carburetor: Make Zenith Model 61-AJ-7 Size 7/8"

Governor: Make Own Type Variable speed, centrifugal

Air Cleaner: Make Donaldson Type Oil-washed wire screen filter

Oil filter: Make Own Type Replaceable element

Cooling medium temperature control: Pines radiator shutters

CHASSIS

Type Tricycle Serial No. C78 Drive Enclosed gear

Tread width; Rear 52" - 80" Front: Top 10-1/2" Bottom 6-1/2"

Rear tires: No. 2 Size 9 - 24 - 4 ply Air pressure 12 pounds

Front tires: No. 2 Size 4.00 x 15 - 4 ply Air pressure 28 pounds

Added weight: Per rear wheel (Cast Iron 260 pounds
(Calcium Chloride Solution 124 pounds

Per front wheel (Cast Iron 77 pounds
(Calcium Chloride Solution 21 pounds

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REPAIRS AND ADJUSTMENTS

During the limber-up test a small leak developed in the main fuel tank. The tank was replaced with a new one.

REMARKS

1. All results shown on page 1 of this report were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, and H were made with an operating setting of the carburetor (selected by the manufacturer) of 97.0% of maximum belt horsepower.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	15.96	19.40
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	16.76	20.20
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings)	12.57	17.17

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 363.

.....
Carlton L. Zink
Engineer-in-charge

.....
E. E. Brackett

.....
C. W. Smith

.....
L. W. Hurlbut
Board of Tractor Test Engineers